



TAPE RECORDER



# Service Manual

## SINGLE POINT ELECTRET STEREO MICROPHONE



MODEL **RP-3200E**

### SPECIFICATIONS

|                               |  |
|-------------------------------|--|
| Frequency characteristics:    | 50~15,000 Hz   |
| Sensitivity:                  | -72 dB (0 dB=1 V/1 $\mu$ bar)                              |
| Output impedance:             | 600 $\Omega$ $\pm$ 20% (at 1 kHz)                          |
| Inherent noise:               | 35 dB SPL  |
| Wind noise:                   | 55 dB SPL  |
| Maximum sound pressure level: | 120 dB SPL   |
| Required battery:             | One UM-3 (Size AA)<br>Note: an on-off switch provided      |
| Microphone cable:             | 5 mm $\phi$ , 5 m, in length with standard Phone-Type Plug |

These specifications are subject to change in order to accommodate improvements in design.

**Matsushita Electric**  
Matsushita Electric Trading Co., Ltd.  
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# LOCATION OF CONTROLS AND COMPONENTS

**Windscreen:** The windscreen prevents unwanted noise from being picked up when recording outdoors, as well as unwanted "popping" noise when the microphone is hand held indoors, and assures that recordings will be of higher quality.

**ON-OFF Switch:** OFF: Power source is turned OFF.  
 STAND BY: Only power source is turned ON, but output is not obtained.  
 MIC ON: Output is obtained.

Battery Terminal ⊕

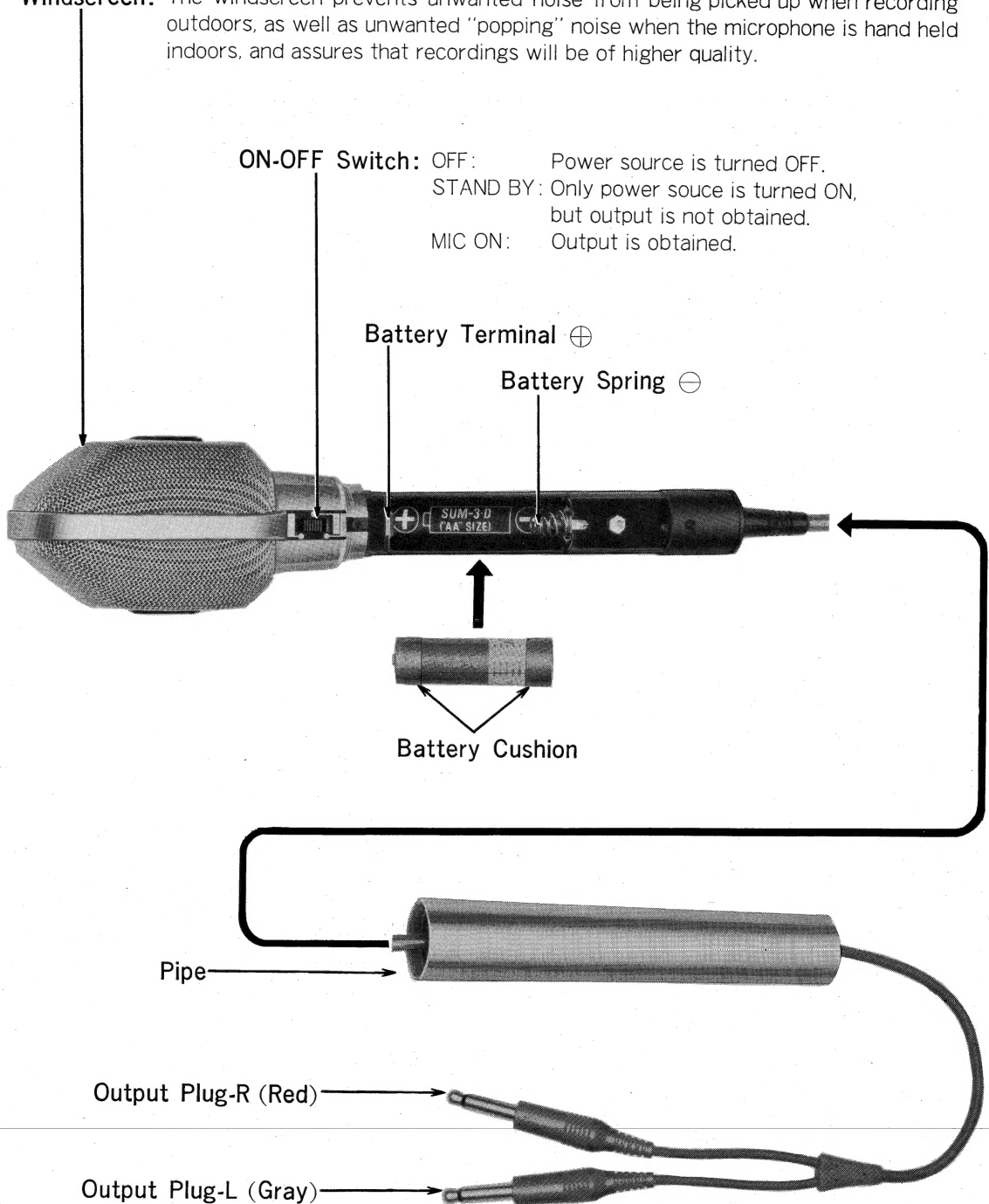
Battery Spring ⊖

Battery Cushion

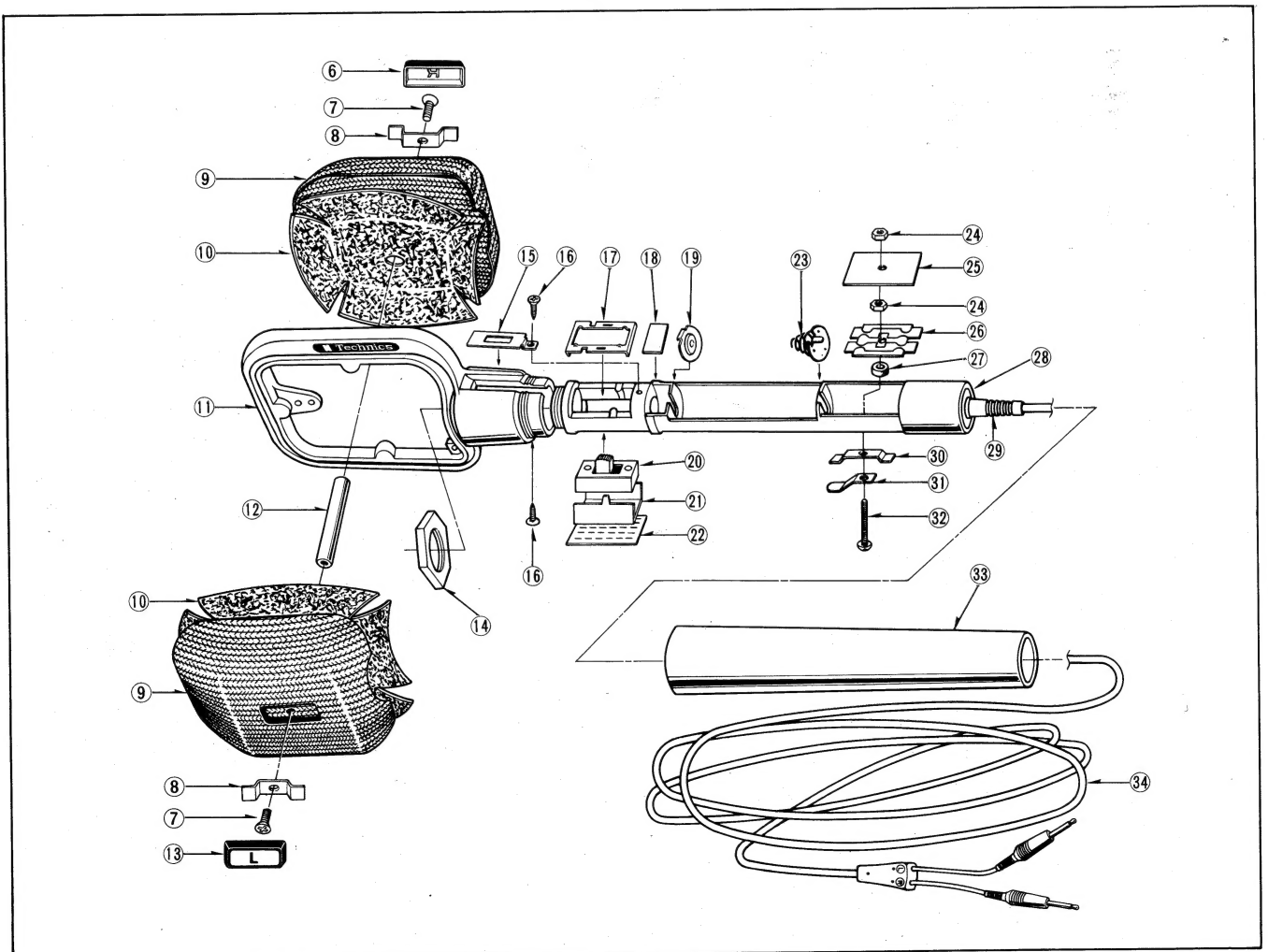
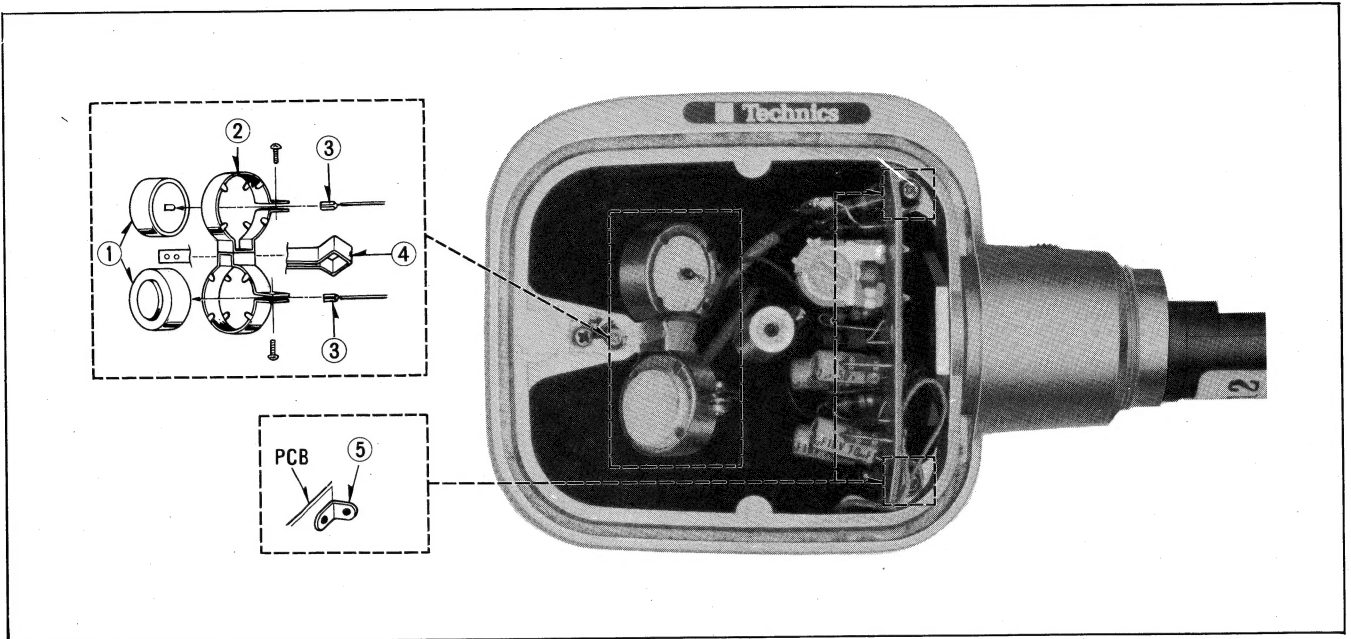
Pipe

Output Plug-R (Red)

Output Plug-L (Gray)

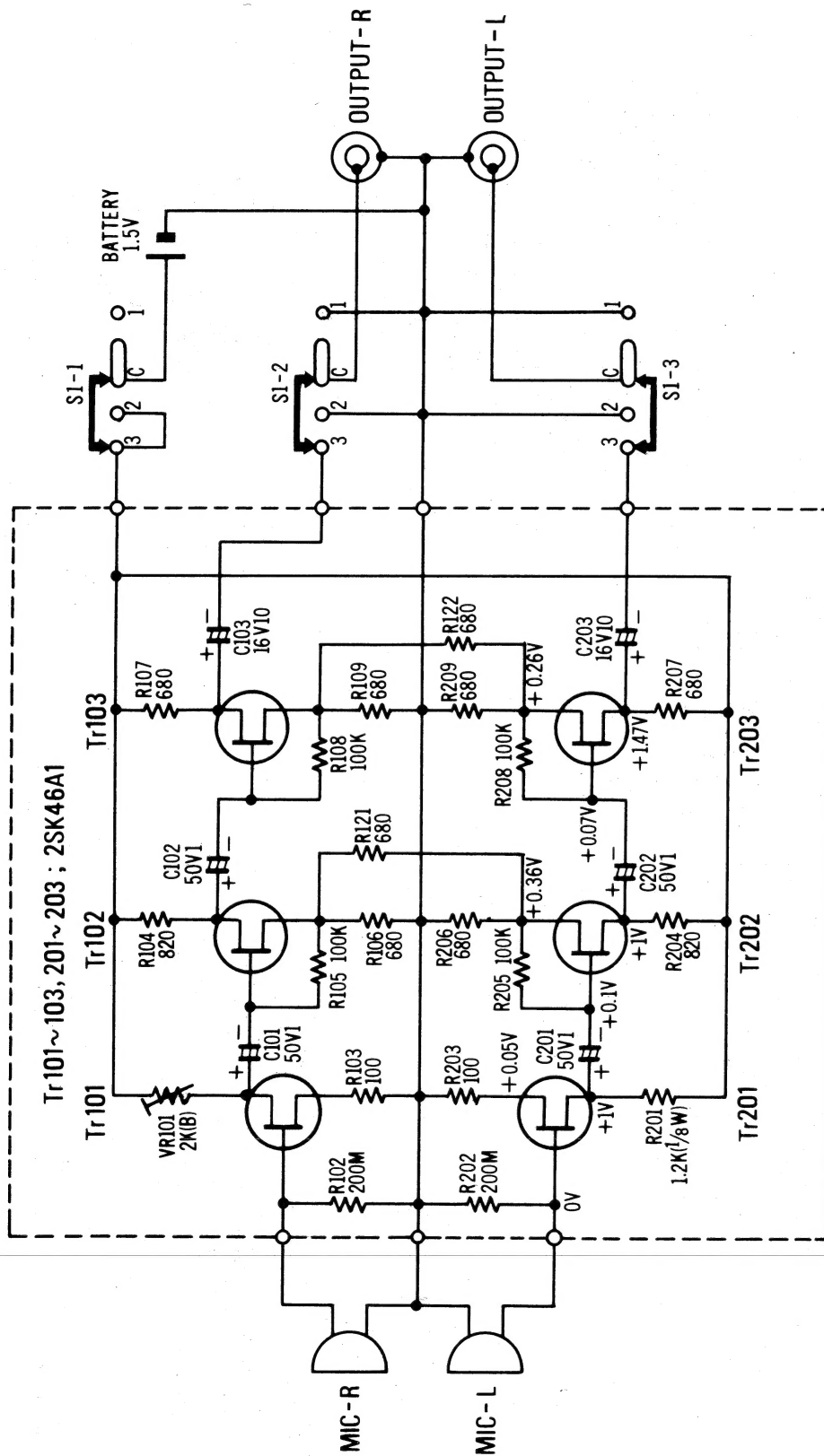


# PARTS LOCATION



**NOTE:** To disassembly, after removing L-indicator ⑬ pasted on indicator retainer ⑧, unscrew ⑦, and remove a left side net ⑨.

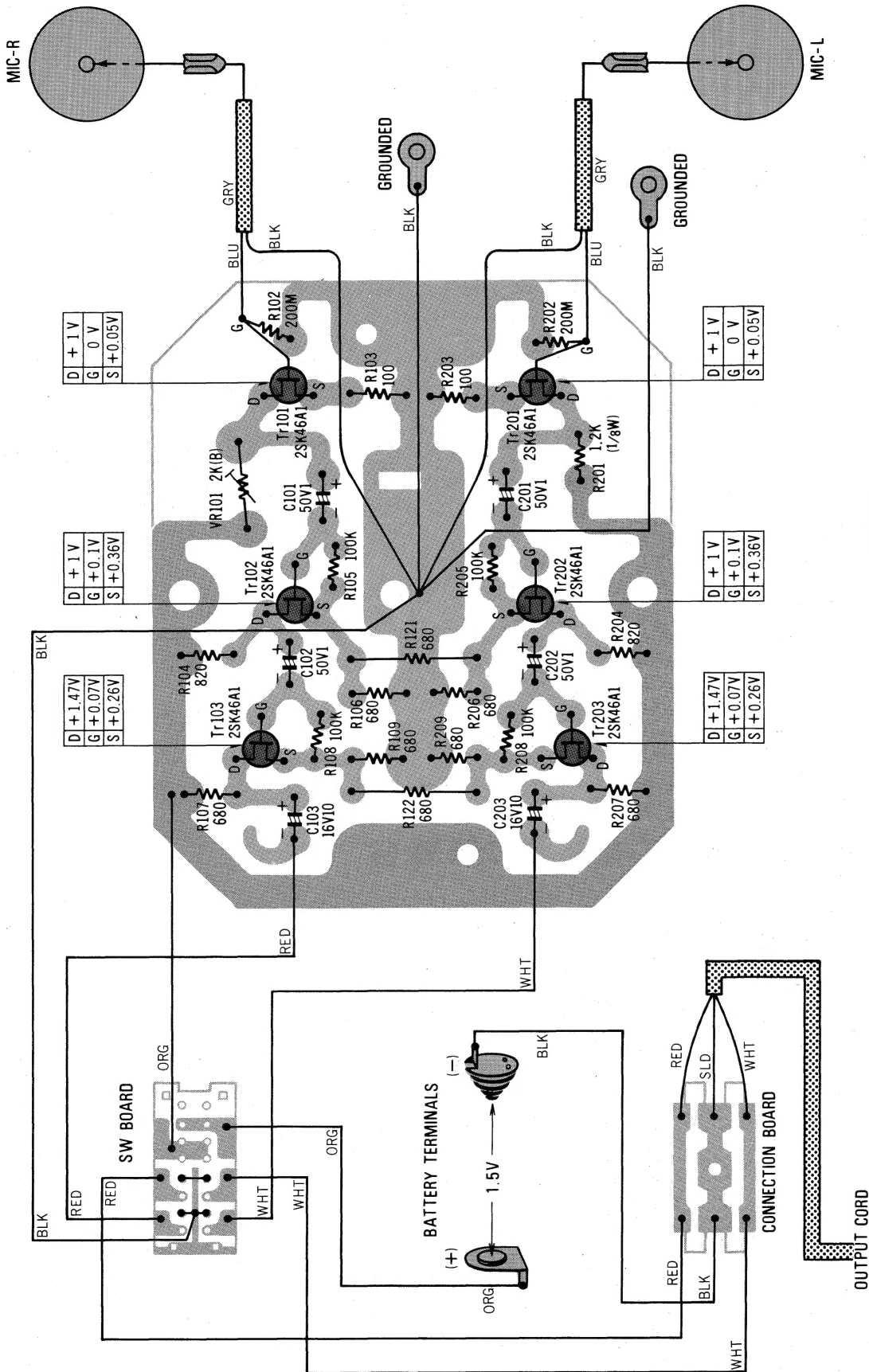
# SCHEMATIC DIAGRAM MODEL RP-3200E



## NOTE:

1. S1 ..... Power ON/OFF switch.  
1...OFF, 2...STAND BY, 3...ON.
2. VR101 ..... Balance adjustment VR.
3. Resistor values are in ohms ( $\Omega$ ), 1/4 watt unless specified otherwise.  
K=1000 $\Omega$ , M=1,000,000 $\Omega$ .
4. Capacitor values are in microfarads ( $\mu$ F) unless specified otherwise.  
P=Pico-farads.
5. Voltages are shown the value measured with VTVM.  
Each value indicated in L-channel is applicable to R-channel too.

# CIRCUIT BOARD



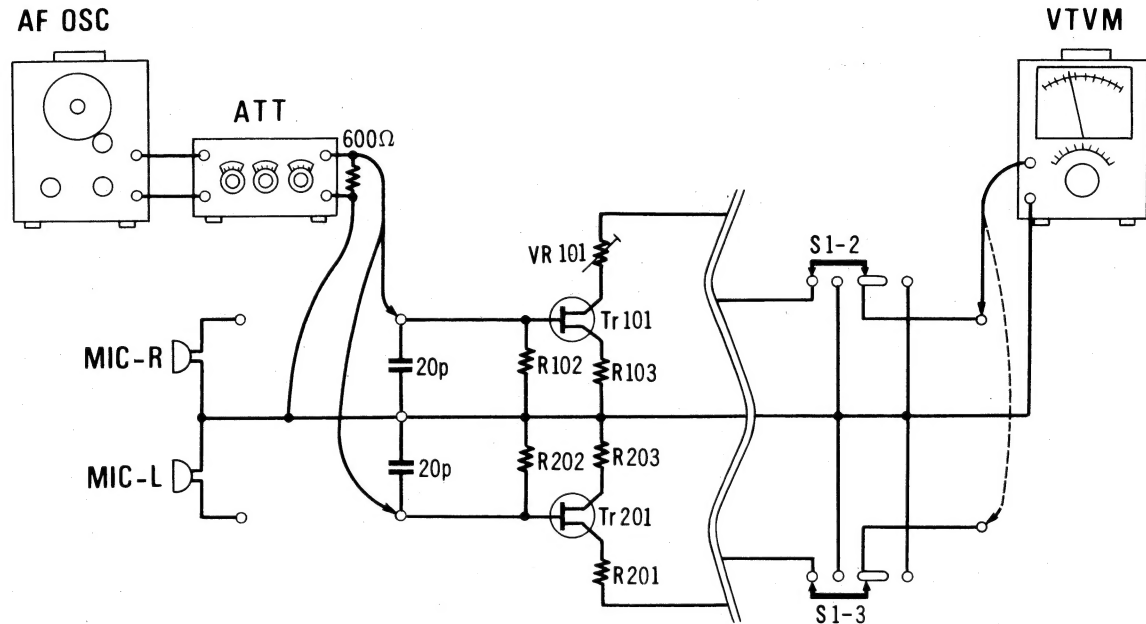
**NOTE:**

|            |               |
|------------|---------------|
| BLK .....  | Black         |
| BLU .....  | Blue          |
| BRN .....  | Brown         |
| GRY .....  | Gray          |
| GRN .....  | Green         |
| L. BLU ... | Light Blue    |
| NIL.....   | No Color Mark |
| ORG .....  | Orange        |
| PNK .....  | Pink          |
| RED .....  | Red           |
| SLD .....  | Shield Wire   |
| VL T ..... | Violet        |
| WHT .....  | White         |
| YEL .....  | Yellow        |

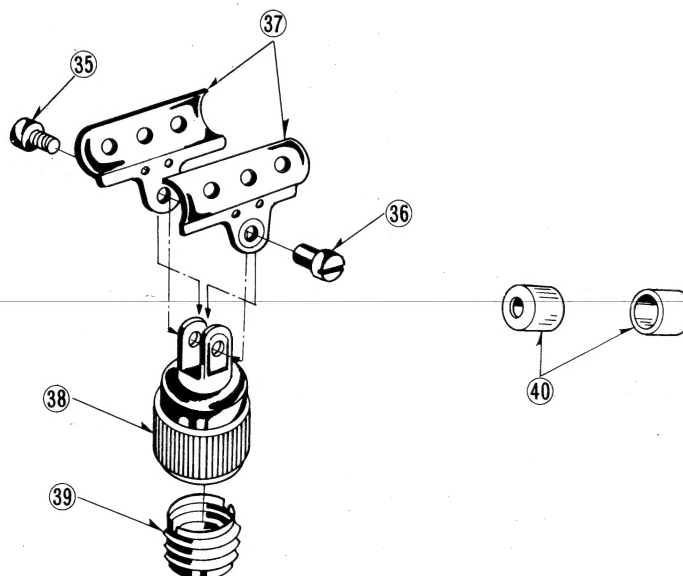
## ADJUSTMENT

Make sure the adjustment of output balance when changing FET and etc. in servicing. The procedure is as follows.

1. Remove both mic-units from the gates of FETs (Tr101, Tr201).
2. Connect 20 pF capacitors between each gate of FETs (Tr101, Tr201) and ground.
3. Apply the signal of 1 kHz, 10 mV to the gates of FETs simultaneously.
4. Adjust VR101 for balanced output.



## ACCESSORIES



# REPLACEMENT PARTS LIST

## MODEL RP-3200E (Technics)

### NOTE:

1. Be sure to make your orders replacement parts according to this list.
2. "N" in "Remark" column indicates new parts.

RP-3200E

| Ref. No.                                | Description                           | Part No.    | Pcs/<br>Set | Price (Per Pce.) |  | Remarks |
|---|---------------------------------------|-------------|-------------|------------------|--|---------|
|   |                                       |             |             |                  |  |         |
|   | <b><u>RESISTORS</u></b>               |             |             |                  |  |         |
| R102, 201                               | Solid Resistor 200 MΩ 1/4 W           | ERC14GS207  | 2           |                  |  | N       |
| R103, 203                               | " 100Ω 1/4 W                          | ERC14GK101  | 2           |                  |  | COMMON  |
| R104, 204                               | " 820Ω 1/4 W                          | ERC14GK821  | 2           |                  |  | "       |
| R105, 108,<br>205, 208                  | " 100 KΩ 1/4 W                        | ERC14GK104  | 4           |                  |  | "       |
| R106, 107, 109, 121, 122, 206, 207, 209 |                                       |             |             |                  |  |         |
|   | " 680Ω 1/4 W                          | ERC14GK681  | 8           |                  |  | "       |
| R201                                    | " 1.2 KΩ 1/8 W                        | ERC18GK122  | 1           |                  |  | "       |
|   | <b><u>VARIABLE RESISTOR</u></b>       |             |             |                  |  |         |
| VR101                                   | Semi-fixed Variable Resistor 2 KΩ (B) | EVLW0A00B23 | 1           |                  |  | N       |
|   | <b><u>CAPACITORS</u></b>              |             |             |                  |  |         |
| C101, 102,<br>201, 202                  | Electrolytic Capacitor 1μF            | ECEA50V1L   | 4           |                  |  | COMMON  |
| C103, 203                               | " 10μF                                | ECEA16V10L  | 2           |                  |  | "       |
|   | <b><u>TRANSISTORS</u></b>             |             |             |                  |  |         |
| Tr101, 102, 103, 201, 202, 203          |                                       |             |             |                  |  |         |
|   | FET                                   | 2SK46A1     | 6           |                  |  | N       |
|   | <b><u>COMPONENT PARTS</u></b>         |             |             |                  |  |         |
| 1                                       | Microphone Unit                       | EM04        | 2           |                  |  | N       |
| 2                                       | Microphone Holder                     | YPMMK194AA4 | 1           |                  |  | N       |
| 3                                       | Connector                             | YPMEE010AA4 | 2           |                  |  | N       |
| 4                                       | Microphone Metal                      | YPMMK195AA4 | 1           |                  |  | N       |
| 5                                       | PCB Holder                            | YPMMK204AA4 | 2           |                  |  | N       |
| 6                                       | R-Indicator                           | YPMHK306BA4 | 1           |                  |  | N       |
| 7                                       | Screw ⊕2.6×6                          | XSC26+6FT   | 2           |                  |  | COMMON  |
| 8                                       | Indicator Retainer                    | YPMMK205AA4 | 2           |                  |  | N       |

| Ref. No. | Description                  | Part No.     | Pcs/<br>Set | Price (Per Pce.) |  | Remarks         |
|----------|------------------------------|--------------|-------------|------------------|--|-----------------|
|          |                              |              |             |                  |  |                 |
| 9        | Net                          | YPMMN168AA3  | 2           |                  |  | N               |
| 10       | Filter                       | YPMMQ142AA4  | 2           |                  |  | N               |
| 11       | Case                         | YPMSS002AA   | 1           |                  |  | N               |
| 12       | Pole                         | YPMMP053AA4  | 1           |                  |  | N               |
| 13       | L-Indicator                  | YPMHK307BA4  | 1           |                  |  | N               |
| 14       | Nut                          | YPMMJ157BA4  | 1           |                  |  | N               |
| 15       | Switch Indicator             | YPMHK312AA4  | 1           |                  |  | N               |
| 16       | Screw $\oplus 2 \times 4$    | XTS2+4A      | 2           |                  |  | COMMON          |
| 17       | Switch Angle-B               | YPMMK202AA4  | 1           |                  |  | N               |
| 18       | Pad Plate                    | YPMHK288AA4  | 1           |                  |  | RP-3550E, 3830E |
| 19       | Battery Terminal $\oplus$    | YPMMX031AA4  | 1           |                  |  | "               |
| 20       | Slide Switch                 | YPMES043AA   | 1           |                  |  | N               |
| 21       | Switch Angle-A               | YPMMK197CA4  | 1           |                  |  | N               |
| 22       | Switch Board                 | YPMEP109AA4  | 1           |                  |  | N               |
| 23       | Battery Terminal $\ominus$   | YPMKM146AA4  | 1           |                  |  | RP-3550E        |
| 24       | Nut 2.6 $\phi$               | XNG26        | 2           |                  |  | COMMON          |
| 25       | PCB Cover                    | YPMMC398AA   | 1           |                  |  | N               |
| 26       | Connection Board             | YPMEP110AA4  | 1           |                  |  | N               |
| 27       | Spacer                       | YPMMC438AA4  | 1           |                  |  | N               |
| 28       | Mic End                      | YPMSS001AA   | 1           |                  |  | N               |
| 29       | Cord Bushing                 | YPMMH065AA4  | 1           |                  |  | N               |
| 30       | PCB Set Metal                | YPMMK201BA4  | 1           |                  |  | N               |
| 31       | Contact Metal                | YPMMS078BA4  | 1           |                  |  | N               |
| 32       | Screw $\oplus 2.6 \times 14$ | XSN26+14FT   | 1           |                  |  | COMMON          |
| 33       | Pipe                         | YPMMC444AA4  | 1           |                  |  | N               |
| 34       | Output Cord                  | YPM EK357CA3 | 1           |                  |  | N               |
| 35       | Mic Holder Screw-B           | YPM MJ142AA4 | 1           |                  |  | RP-3550E, 3850E |
| 36       | Mic Holder Screw-A           | YPM MJ141AA4 | 1           |                  |  | "               |
| 37       | Mic Holder                   | YPMMA185CA4  | 2           |                  |  | "               |
| 38       | Mic Holder Screw             | YPMMA184BA4  | 1           |                  |  | "               |
| 39       | Conversion Adaptor           | YPM MJ165AA4 | 1           |                  |  | "               |
| 40       | Battery Cushion              | YPM MG077BA4 | 2           |                  |  | "               |
| 41       | Lether Case                  | YPM PN275AA4 | 1           |                  |  | N               |
| 42       | Packing Case                 | YPM PN274AA4 | 1           |                  |  | N               |
| 43       | Instruction Book             | YPM PJ083AA  | 1           |                  |  | N               |